

# Patents in ARS

## A Plain Language Guide

### Introduction

This brochure is intended to provide you with general information about the ARS patent program. For more detailed information, contact one of the ARS patent advisors listed at the end.

To report an invention, see *How Should You Report Your Inventions?*

Patenting and licensing of inventions made by ARS research and technical personnel are an important part of the agency's technology transfer program. It is not the agency's responsibility, however, to ensure technology transfer and actively seek out patents and licenses. The initiative for technology transfer and patenting must originate with the inventors.

### What Is a Patent and What Can Be Patented?

If an invention meets specific legal criteria, a patent may be granted by the U.S. Patent and Trademark Office. A patent gives the owner the right to exclude others from using the invention in the United States for up to 20 years from the date the patent application was filed. Patent laws vary from country to country.

To be patentable in the United States, an invention must be new and useful, not an obvious extension of existing technology. *Obviousness* is a legal concept and is generally defined as what would be readily apparent to one of ordinary skill in the field of the invention—a biochemical process to a biochemist, a mechanical device to a mechanical engineer, and so on. Obviousness is a complex area and should be discussed case by case with a patent advisor.

Under U.S. patent law, any new process, machine, design, or composition of matter, or any new or useful improvement of these, may be patented. This includes living organisms as well as macro and molecular components of organisms. It is ARS policy to give special consideration to the issue of applying for patents on novel plants or animals as well as software.

## Why Does ARS Patent Inventions?

Patenting enables ARS and other Federal agencies to grant exclusive, partially exclusive, or nonexclusive patent licenses. Exclusive licensing means that ARS can give one company the exclusive right to use an ARS invention. A partially exclusive license is one in which the number of licensees is limited to a specific number or a licensee is granted exclusive use for only one area of the invention. A nonexclusive license is open to the inclusion of any number of future licensees. The way in which an invention is licensed is based on which approach will most effectively promote use of the invention. Advice from inventors is sought in making this decision.

Exclusive licensing is often the instrument of choice because a company may otherwise have little incentive to invest heavily in an ARS invention. Before Congress authorized exclusive licensing, most companies were unwilling to take the financial risks involved in bringing Federal technologies to market. This was because, without a protected niche, any other company could compete in the same markets without having borne any of the development costs. These economic realities meant that many ARS inventions previously went undeveloped and unused.

## What Does an ARS Employee Gain From Having a Patent?

ARS recognizes patents as documentation of research accomplishments and considers patents, with other technology transfer achievements, an aspect of research productivity in evaluating performance.

ARS inventors are also entitled to a share of the income received by the agency from each licensed invention, up to a maximum of \$150,000 per inventor per year.

If ARS decides not to apply for patents in the United States or elsewhere and does not intend otherwise to promote commercialization of an invention, then, under appropriate circumstances, the inventor may seek a departmental release to own such patent rights.

## What Does the Scientist Have To Do?

Most ARS research produces new facts, discoveries, and information, not patentable inventions. Even so, you should be aware of patent possibilities in your research. Learn to recognize commercial potential in every aspect of your work, even if the results of your research won't have direct commercial application. If you're studying the habits of moths, for example, don't overlook the improved insect trap you developed to catch them. This could have commercial potential beyond your immediate needs and may be worth patenting.

Similarly, don't dismiss inventions that don't do what you wanted them to do. They may have other unanticipated uses.

Keep proper records. Notebooks and other records are essential to settling disputes about who invented something first. See *Recordkeeping*.

Be discreet. Untimely publication of information about your invention may jeopardize patent rights. See *What Can You Write About Your Invention?* and *What Can You Say About Your Invention?*

If you're working on a project that you think may produce a patentable invention, consult your patent advisor at the earliest opportunity.

## How Should You Report Your Inventions?

Invention reports should be submitted electronically through Research Management Information Service (RMIS), which clears through supervisory channels. As soon as the invention report is entered, a paper copy must be signed and dated by the inventor(s), witnessed (signed and dated), and forwarded to the patent advisor. Early submission of invention reports is encouraged. This should be done no later than the time you begin to prepare a formal scientific manuscript to report your research and in no case later than the time that your manuscript is submitted to ARS for clearance.



## What Happens After You Submit an Invention Report?

Once a patent advisor receives an invention report, he or she makes a preliminary determination about patentability. If the invention passes this first test, the invention report is evaluated by a patent committee. Patent committees are made up of ARS scientists, who prepare for a meeting as they would for a peer evaluation panel. Their responsibility is to make recommendations to the patent advisor.

Patent committees meet as needed. In deciding whether to recommend pursuing a patent, the patent committee considers (1) the invention's probable technological, commercial, and environmental impact and (2) the importance of patenting the invention as a means of promoting its use.

Once the patent committee, in consultation with the patent advisor, recommends that ARS patent an invention and the Office of the Administrator concurs, the patent advisor prepares a patent application—a legal document drafted in a legally defined format and language. The order for preparing patent applications is chronological, based on the date the invention report was received, unless the patent advisor or patent committee establishes a different priority. While preparing the case, the patent advisor calls on the inventor for technical assistance.

How long each of these steps takes depends on several variables, including how well you prepare the invention report, the size of the patent advisor's caseload, and the technical difficulty involved in preparing your particular patent application. The patent advisor will notify you when the patent application has been submitted to the U.S. Patent and Trademark Office.

## What Can You Write About Your Invention?

Publishing detailed information about your invention before the patent application is filed in the U.S. Patent and Trademark Office constitutes prior

disclosure. The manuscripts approval and acceptance process is not considered publication.

There are ground rules concerning prior disclosure: Domestic patent rights are unaffected if a patent application is filed with the U.S. Patent and Trademark Office within 1 year of publication. *However, no such grace period exists for foreign rights.* If there is interest in obtaining foreign patents, prior oral or written disclosure cannot precede the date your patent application is submitted to the U.S. Patent and Trademark Office. In addition, public use or sale more than 1 year before filing in the United States will preclude all patent rights.

Publication constitutes prior disclosure only if enough information is given to enable someone to reproduce your results using conventional techniques and without substantial additional effort. You can usually say what your invention will do and possibly even a little about how it works, but you should refrain from revealing its components or what they're derived from. Here again is a gray area best discussed on a case-by-case basis with your patent advisor.

"Publication" includes refereed journal articles, abstracts distributed at professional meetings, CRIS (Current Research Information System) reports, and interpretive summaries in TEKTRAN reports. Internet and other electronic versions of any of these made publicly available are considered public disclosures.

Written descriptions that aren't distributed or made available to the public don't constitute prior disclosure. Evaluation write-ups (Research Evaluation Grade System Case Write-ups) are an example of such unpublished descriptions and may be as detailed as is appropriate.

Since articles and abstracts published in scientific and trade journals generally include detailed information about an invention, you and the patent advisor should make every effort, if foreign rights are desired, to ensure that the patent application is submitted to the U.S. Patent and Trademark Office

before the publication appears in print. This is an added reason why you should submit your invention report no later than when you submit your manuscript for ARS clearance.

## What Can You Say About Your Invention?

Public oral disclosure of an inventive concept, whether in a formal talk or as a spontaneous exchange over coffee, has the potential to undermine patent rights if done without an agreement that the information is confidential. Noncontingent sharing of information that “puts the inventive concept in the hands of the recipient” causes an immediate loss of foreign patent rights. Confidential correspondence, interchange of ideas with colleagues (with the understanding that the information is not to be shared with a third party), and oral discussion in program reviews do not constitute public disclosure.

It’s also all right to discuss your research in detail with members of the ARS Information Staff. All material released to the media by the Information Staff is cleared beforehand. When discussing your research with a member of the Information Staff, be sure to say whether ARS is applying for a patent on your invention. Also, note that the material on Form ARS-115, *Request To Submit Manuscript for Publication*, is published on the database TEKTRAN when the Form 115 is submitted to Headquarters (about 6 months to 1 year before publication up to actual journal publication). If you respond “yes” to the question, “Due to patent potential, is retention of intellectual property rights desired?” then the form will be withheld from the database.

In discussing your invention in public or with representatives of the news media, use the same discretion you use in your published reports. Keep in mind that technology transfer depends in part on appropriate publicity for your work. So taking the easy way out—refusing to say anything about your invention—is usually not the best policy. If in doubt about which details you should keep to yourself, discuss the matter with your patent advisor.

## What Can You Share About Your Invention?

Information relating to an invention may be shared with prospective licensees, prospective industry cooperators, or other non-ARS requesters under a confidentiality agreement. Likewise, samples of materials may be provided to others under a material transfer agreement (MTA). Forms for these agreements are available from your patent advisor and are to be signed by both the ARS investigator and the recipient. MTA’s from outside organizations must be cleared before signing.

You may safely discuss all the details of your invention under any of the following conditions:

- The patent application has been submitted to the U.S. Patent and Trademark Office.
- You have already published complete information on your invention.
- Foreign patents are not being filed and you know that your U.S. patent application will be filed within a year.

## Recordkeeping

Keeping good records is basically an extension of keeping good research notes.

Use a permanently bound notebook. Use Form ARS-1, which is an official laboratory notebook.

On any page describing research that may be critical to a potential invention, it’s a good idea to sign and date the page and ask a noninventor who has the background to understand your work to sign also. This will establish corroboration by a noninterested party.

Relevant documents should be attached to the notebook, or cross-referenced if attachment is impractical. Photos, graphs, spectra recordings, and computer printouts are examples of such docu-



ments. Use your notebook as an index to data stored on computer media such as floppy disks.

## Further Information Sources

ARS Directive 140.1, 1/21/92, *Patenting and Patent Licensing*.

ARS Directive 431.3, 9/30/86, *Position Classification—Research Position Evaluation System*.

A 20-minute video, *Patent It, Patent It*.

ARS brochure, *Technology Transfer Agreements With the Agricultural Research Service*.

ARS brochure, *Technology Transfer Agreements Between Industry and ARS*.

ARS brochure, *Agricultural Inventions: How To Apply for a Patent License*.

All are available from Bruce Kinzel, technology transfer marketing specialist, at (301) 504-6965.

## ARS National Patent Program

### Patent Advisors

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